

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-11 are pending in the application. Claims 1 and 10 are amended by the present amendment. Support for amended independent Claims 1 and 10 can be found in the original specification, claims and drawings.¹ No new matter is presented.

In the Office Action, Claims 1-2, 5, 10-11 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yoshihara et al. (U.S. Pat. 5,172,233, herein Yoshihara) in view of Kitaguchi et al. (U.S. Pat. 6,038,074, herein Kitaguchi); Claims 3-4 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yoshihara in view of Kitaguchi and Kawakami et al. (U.S. Pat. 4,780,739, herein Kawakami); Claims 6-8 are rejected under 35 U.S.C. § 103(a) as unpatentable over Yoshihara in view of Kitaguchi and Namerikawa et al. (U.S. Pat. 6,089,090, herein Namerikawa); and Claim 9 was rejected under 35 U.S.C. § 103(a) as unpatentable over Yoshihara in view of Kitaguchi and Hasegawa (U.S. Pat. 5,900,927).

The Office Action rejects Claims 1-2, 5, 10-11 under 35 U.S.C. § 103(a) as unpatentable over Yoshihara in view of Kitaguchi. In response to this rejection, Applicants respectfully submit that amended independent Claims 1 and 10 recite novel features clearly not taught or rendered obvious by the applied references.

Amended independent Claim 1, for example, recites an apparatus for correcting a deviation of an imaging sensor of a digital camera in which an image of an object or a scene is formed on an image plane of the imaging sensor so that the imaging sensor outputs an image signal, comprising:

a rotation detecting unit which detects a quantity of rotation of the digital camera causing a deviation of the imaging sensor from a reference position to occur, the rotation detecting unit including ***an acceleration sensor provided in the digital camera*** to output a signal indicative of an acceleration

¹ e.g., specification, Fig. 3 and p. 19, ll. 11-21.

of the digital camera and *a magnetic sensor provided in the digital camera* to output a signal indicative of a magnetic field of the digital camera.

Independent Claim 10, while directed to an alternative embodiment, is amended to recite similar features. Accordingly, the remarks and arguments presented below are applicable to each of independent Claims 1 and 10.

As described in an exemplary embodiment at p. 19, ll. 11-21 of the specification, in the digital camera, acceleration sensors 3, 4 and 5 are provided to output signals indicative of accelerations of the digital camera along the X axis, the Y axis and the Z axis, respectively. Further, magnetic sensors 6, 7 and 8 are provided to output signals indicative of magnetic fields of the digital camera along the X axis, the Y axis and the Z axis, respectively.

In rejecting Claim 1, p. 3 of the Office Action concedes that Yoshihara fails to disclose “the rotation detecting unit including an acceleration sensor outputting a signal indicative of an acceleration of the digital camera and a magnetic sensor outputting a signal indicative of a magnetic field of the digital camera.” In an attempt to remedy this deficiency, the Office Action relies on Kitaguchi and asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to arrive at Applicants’ claims. In response to this rejection, Applicants respectfully submit that Kitaguchi fails to teach or suggest the more detailed features directed to the magnetic sensor and the acceleration sensor being provided in the digital camera, as required by amended independent Claims 1 and 10.

Kitaguchi describes a three-dimensional measuring apparatus that is capable of detecting a change of orientation of the image inputting means (e.g., camera). As described at Fig. 4 and col. 17, ll. 26-33 of Kitaguchi, the three-dimensional-shape measuring apparatus includes “a monocular image-pickup (or picture-taking) portion 1... a gravity-direction detecting portion 3, [and] a portion for detecting rotation angles about the gravity direction 4...” Thus, this cited portion of Kitaguchi describes that the three-dimensional shape

measuring apparatus includes three separate portions (e.g., picture-taking portion 1, gravity-direction detecting portion 3, and rotation angle detecting portion 4).

Moreover, col. 17, ll. 36-40 of Kitaguchi describes that the monocular image-pickup portion 1 includes, for example, a digital camera, and, as shown in Fig. 1, picks up the images (or takes the pictures) of the object to be measured M from the first point of view L1 and from the second point of view L2. This portion of Kitaguchi, therefore, implies that both the gravity-direction detecting portion 3 and the portion for detecting rotation angles about the gravity direction 4, are arranged separately from the digital camera included in the pickup portion 1. As described in Kitaguchi, taking pictures from two point of view is necessary in order to measure a three-dimensional shape of an object, thus the gravity-direction detecting portion 3 and the portion for detecting rotation angles about the gravity direction 4 must be arranged separately from the digital camera.

In contrast, amended independent Claim 1 recites “the rotation detecting unit including *an acceleration sensor provided in the digital camera* to output a signal indicative of an acceleration of the digital camera and *a magnetic sensor provided in the digital camera* to output a signal indicative of a magnetic field of the digital camera.” Such a configuration is advantageous, for example, in order to correct a deviation of an imaging sensor of the digital camera due to slight oscillations of the operator’s hand holding the camera. Kitaguchi fails to teach or suggest such a configuration.

Therefore, Yoshihara, even if combined with Kitaguchi, fails to disclose an apparatus for correcting a deviation of an imaging sensor of a digital camera that includes “a rotation detecting unit which detects a quantity of rotation of the digital camera causing a deviation of the imaging sensor from a reference position to occur, the rotation detecting unit including *an acceleration sensor provided in the digital camera* to output a signal indicative of an acceleration of the digital camera and *a magnetic sensor provided in the digital camera* to

output a signal indicative of a magnetic field of the digital camera,” as recited in amended independent Claim 1.

Further, Applicants respectfully submit that Kitaguchi is not available as prior art under 35 U.S.C. § 103, as next discussed.

Applicants note that Kitaguchi qualifies as prior art only under 35 U.S.C. §102(e), as the present application priority date (June 22, 1999) predates the publication date (March 14, 2000) of Kitaguchi. To the extent Kitaguchi is relied upon for the rejections of Claims 1-11, Applicants respectfully traverse these rejections.

As Kitaguchi is §102(e) art, the obviousness rejection is deficient under 35 U.S.C. §103(c) as explained below.

Applicants submit that the present application and Kitaguchi were, at the time the present invention was made, owned by, or subject to an obligation of assignment to Ricoh Company, Ltd. Accordingly, application of Kitaguchi in any obviousness rejection is improper.²

As the above noted rejections under 35 U.S.C. § 103(a) rely on Kitaguchi, Applicants respectfully submit these rejections are traversed as Kitaguchi may not be applied as a basis for supporting a *prima facie* case of obviousness as outlined by 35 U.S.C. §103(c).

Accordingly, Applicants respectfully request that the rejection of Claims 1 (and the claims that depend therefrom) under 35 U.S.C. §103 be withdrawn. For substantially similar reasons, it is also submitted that Claim 10 (and Claim 11, which depends therefrom) patentably defines over Yoshihara and Kitaguchi.

With regard to the rejection of Claims 3-4, 6-8 and 9 under 35 U.S.C. §103 as unpatentable over Yoshihara in view of Kitaguchi, Kawakami, Namerikawa and/or

² Applicant notes that the filing date of the present application (December 9, 2003) is after November 29, 1999, therefore bringing the present application under the current guidelines for 35 U.S.C. §103(c) for excluding 102(e) art.

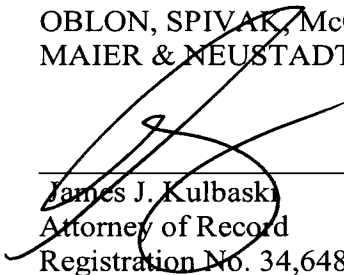
Hasegawa, Applicants note that each of Claims 3-4, 6-8 and 9 depend from independent Claim 1 and are believed to be patentable for at least the reasons discussed above. It is also submitted that none of Kawakami, Namerikawa and/or Hasegawa cure the above noted deficiencies of Yoshihara and Kitaguchi.

Accordingly, Applicants respectfully request that the rejection of Claims 3-4, 6-8 and 9 under 35 U.S.C. §103 be withdrawn.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-11 patentably define over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

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